

Amendments to the Claims:

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended) ~~An amphipathic peptide conjugate having A lipopeptide detergent properties and having a hydrophobic face and a hydrophilic face having a peptide moiety comprising an amino acid sequence selected so as to permit the formation of the peptide moiety into an amphipathic α -helical conformation, said peptide moiety of the conjugate comprising a first end and a second end, wherein said first end is covalently linked to a first aliphatic hydrocarbon moiety and said second end is covalently linked to a second aliphatic hydrocarbon moiety, said aliphatic moieties being linked such that they associate with the a hydrophobic region of the peptide moiety of the conjugate.~~

Claim 2 (Canceled)

Claim 3 (Currently Amended) ~~The peptide conjugate The lipopeptide detergent as defined in claim 1, wherein said peptide comprises hydrophobic and hydrophilic regions.~~

Claim 4 (Currently Amended) ~~The peptide conjugate The lipopeptide detergent as defined in claim 1, wherein said peptide comprises 15-35 amino acids.~~

Claim 5 (Currently Amended) ~~The peptide conjugate The lipopeptide detergent as defined in claim 4, wherein said peptide comprises about 25 amino acids.~~

Claim 6 (Currently Amended) ~~The peptide conjugate The lipopeptide detergent as defined in claim 5, wherein said peptide has the amino acid sequence, AOAEAAEKAALKYAAEAAEKAAKAOA.~~

Claim 7 (Currently Amended) ~~The peptide conjugate~~ The lipopeptide detergent as defined in claim 1, wherein the length of said peptide is approximately equal to the width of a phospholipid bilayer.

Claim 8 (Currently Amended) ~~The peptide conjugate~~ The lipopeptide detergent as defined in claim 7, wherein the length of said peptide is in the range of about 3.5 - 4.0 nm.

Claim 9 (Currently Amended) ~~The peptide conjugate~~ The lipopeptide detergent as defined in claim 8, wherein the length of said peptide is about 3.7 nm.

Claim 10 (Currently Amended) ~~The peptide conjugate~~ The lipopeptide detergent as defined in claim 1, wherein the termini of said peptide are protected.

Claim 11 (Currently Amended) ~~The peptide conjugate~~ The lipopeptide detergent as defined in claim 10, wherein the N-terminus of said peptide is acetylated and the C-terminus of said peptide is amidated.

Claim 12 (Currently Amended) ~~The peptide conjugate~~ The lipopeptide detergent as defined in claim 1, wherein said aliphatic hydrocarbon moieties comprise from about 8-24 carbon atoms.

Claim 13 (New) The lipopeptide detergent as defined in claim 12, wherein the peptide has the amino acid sequence AOAEEAAEKAALKYAAEAAEKAAKAOA.

Claim 14 (New) The lipopeptide detergent as defined in claim 11, wherein the peptide has the amino acid sequence AOAEEAAEKAALKYAAEAAEKAAKAOA, and each of the aliphatic hydrocarbon moieties comprises 12 carbons atoms.

Claim 15 (New) The lipopeptide detergent as defined in claim 14, wherein said aliphatic hydrocarbon moieties are covalently linked to said peptide moiety via the ornithine residues of said amino acid sequence.

Serial No. 10/019,482
Reply to Office Action
October 28, 2004

Claim 16 (New) A composition comprising membrane proteins stabilized by the use of lipopeptide detergents as defined in claim 1.

Claim 17 (New) A composition comprising biological membranes modified by the use of lipopeptide detergents as defined in claim 1.